

APPLICATION SERIAL NO. 10/649,203

PATENT

REMARKS

Claims 1-20 are pending in the application, claims 5-7 and 14-20 have been withdrawn from consideration. Claims 1-4 and 8-13 are rejected. Further examination and reconsideration respectfully are requested.

*Examiner's Consideration of Applicants'
Information Disclosure Statement*

The examiner's acknowledgement of the Information Disclosure Statement filed on August 27, 2003, is noted with appreciation.

Comments on the Amendments

The Title has been amended as required by the examiner to improve descriptiveness.

Independent claims 1 and 11 have been amended by adding the phrase "the control gate being part of a continuous word line that extends over the first and second doped regions." This amendment is supported throughout the specification, including Paragraph [0023] ("Preferably, the control gate is part of a continuous word line ..."), Paragraph [0038] ("... a suitable layer ... of word line material ... which ... is then defined using a suitable mask and plasma etching in a manner well known in the art to form word lines such as 240 that include control gate sections such 212, 214 and 216 for the transistor 210, and control gate sections such 222, 224 and 226 for the transistor 220."), and Figures 2, 6, 7 and 9.

The rest of the amendments to independent claims 1 and 11 are minor amendments to correct inadvertent errors in the use of antecedent basis. The scope of these claims has not been changed.

The amendments to dependent claims 12 and 13 are minor amendments to correct inadvertent and readily apparent errors in the use of particular terms. The scope of these claims has not been changed.

The Section 112 Rejections Have Been Overcome by Amendment

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The examiner's observations about the apparent errors in the use of particular terms in dependent claims 12 and 13 is correct, and the claims have been amended to correct the error. Accordingly, the rejection has been overcome.

The Section 102 Rejections Have Been Overcome by Amendment

Claims 1-4 and 8-13 were rejected under 35 USC 102(b) as being anticipated by US Patent No. 6,365,449, issued to Kuo et al. In response, independent claims 1 and 11 have been amended by adding the phrase "the control gate being part of a continuous word line that extends over the first and second doped regions," which distinguishes over Kuo et al. Withdrawal of the rejection respectively is requested.

Kuo et al. discloses a split-gate non-volatile memory cell in which channel length is symmetrical about floating gate 14 due to the use of second polysilicon sidewalls. As disclosed in column 3, lines 51-63 (emphasis supplied):

... source and drain regions 24 and 26 are formed in accordance with **conventional processing steps**. ... In such implant step, **the outer edges of the second polysilicon spacers**, marked as A and B in FIG. 1B, **define the inner edges of source and drain regions 24 and 26**. The inner edges of the source and drain regions in turn define the total channel length ...

In other words, second polysilicon terminates at edges A and B so that the source and drain implants may be made into the substrate. The second polysilicon terminates near the edge of the source and drain regions 24 and 26, and does not extend over the source and drain regions 24 and 26.

Independent claims 1 and 11 as amended set forth that "the control gate being part of a continuous word line that extends over the first and second doped regions." As this feature is undoubtedly lacking in the Kuo et al. disclosure, independent claims 1 and 11 and claims dependent therefrom are not anticipated by Kuo et al. Withdrawal of the rejection is requested.

It will be appreciated that this difference is very significant. The use of a continuous word line that extends over the source and drain regions as claimed makes

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possible a contactless array, which is important because the size of memory cells made with contactless array technology generally is smaller than corresponding cells made by the use of contacts. Kuo et al. does not disclose that its technology is suitable for contactless arrays, and does not even disclose that any of its word lines are continuous. Even if one assumes for the sake of argument that the second polysilicon in Kuo et al. may be made continuous by extending it into the page to other cells, the second polysilicon would still not extend over the source and drain regions. Moreover, not only would there be no need for such an extension, but such an extension would be taught away from because of the need to contact the implanted drain 26 to form a perpendicular bit line. Accordingly, the ability of the claimed invention to be used to realize contactless arrays is a significant advantage that Kuo et al. does not disclose as being achievable with the technology disclosed therein.

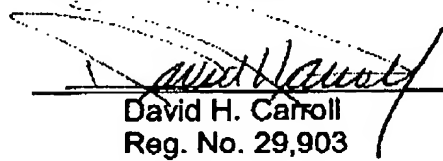
Conclusion

In view of the foregoing amendments, it is believed that the application is now in condition for allowance. Applicants respectfully request favorable reconsideration and the timely issuance of a Notice of Allowance as to claims 1-4 and 8-13 (Species A). Additionally, applicants respectfully request reinstatement and allowance of claims 5-7 (Species B), inasmuch as claims 1-4 are generic both to Species A and Species B. If a telephone conference would be helpful in resolving any issues concerning this communication, please contact the undersigned at (952) 253-4135.

Respectfully submitted,
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Date: May 16, 2005

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